Osteocarpum.

(Ferd. Mueller, Second Gen. Report, p. 15.)

Flowers hermaphrodite, solitary, without bracteoles; calyx minute, short toothed, at last indurated and one-ribbed; stamens three; anthers ovate; styles two capillary, joint at the base; caryopsis enclosed in the boney oblique globular calyx; pericarp membraneous, distinct; seeds horizontal, with a membraneous testa; embryo peripherical, annular; albumen central, mealy.

A perennial glabrous procumbent plant of extra-tropical Australia, with numerous short semiterete leaves, with bearded axils and minute axillary flowers.

A genus approaching to Sclerochlamys, Echinopsilon and Threlkeldia.

Osteocarpum salsuginosum.

(Ferd. Mueller, l.c.)

On the saline plains of Lake Torrens, the Darling and Murray River. Also in eastern subtropical Australia, found by Sir Thomas Mitchell.

Suæda tamariscina, Lindley in Mitch. Trop. Australia, is in all likelihood referrable to this plant.

ART. XI.—*On the Introduction of the British Song Bird.* By EDWARD WILSON, Esq.

[Read before the Institute, 4th July, 1857.]

MR. CHAIRMAN AND GENTLEMEN,—Amongst the various kinds of experiment to which I alluded in a Paper lately read before the members of this Institution, there is scarcely one possessed of more general features of a kind of elegant interest than that of introducing into this colony some of the song birds of England; and of thereby relieving the comparative silence of our woods and gardens. It seems probable that much might be done in this way, with a very trivial expenditure of either money or trouble; and if even in a single instance we could achieve success, I think that we should thereby confer a very signal benefit upon the colony at large. It may appear to some a trivial thing to be devoting our efforts in such a direction,

while so much has to be done for the colony in matters of essential importance. But I confess that I am inclined to attach great consequence to the diffusion of these minor delights, and to estimate very highly their beneficial effect upon a people. There is a peculiar charm about the song of the sky-lark on a fine spring morning, or that of the nightingale during one of its own calm summer nights, that cannot be adequately described, but can never be forgotten by those who have once heard these birds. There may be a great deal, doubtless, in the associations by which they are surrounded. But it is the peculiar characteristic of these interesting creatures to so surround themselves, and it is the combination of such charms at which we should aim, and which I believe we should attain, if we were to follow out our experiments with reasonable spirit and perseverance. The corn field and the grove we have already spreading around us. Why should we delay the attempt to furnish them with their most agreeable inhabitants?

Before proceeding to consider the chances of success in the introduction of any of the native song birds of England itself, I would like to say a few words respecting that general favorite—the canary.

I think that there are good reasons for believing that this bird might be easily established amongst us in a wild state. In corresponding localities of France and Italy, a species of canary abounds, and adds greatly to the melody of the woods. There is nothing in the severity of our winters to interfere with them. The seeds of the native grasses, and of the various weeds with which even our best cultivated gardens are profusely supplied, furnish food to which they would soon become accustomed. They breed readily here in confinement, and would surely be still more likely to do so, if in a more natural condition.

An experiment with this pretty little bird has this particular advantage, too, that it might be tried at once, and with very little outlay. Canaries are frequently sold by auction in large numbers, and at prices varying downwards to five shillings each, so that a few dozens might be purchased and turned loose in suitable situations at a very moderate expense. They live long here in captivity, and can exist in a wild state, as in watching the process of rearing them I have seen them lost occasionally, and have been surprised at their return after an interval of a few days.

If an experiment of this nature were to be tried, I think it should take place in the spring; that the birds, probably accustomed all their lives to the shade, might become habituated by

degrees to the excessive heats of our summer sun. They should be turned loose where water is accessible; where they might be able to return at pleasure to their old food, in their well-known cages; and where in their return they would be free from danger from cats; as while lingering, as they would do, round old haunts, they would be very liable to destruction from this quarter. Before being turned loose, they should be accustomed to the use of their wings, by being confined for some time in a room, or a very roomy cage. Considerable strength of wing, and a free use of it, is essential to their safety, as all new birds would be exposed to great annoyance from several of the native birds, and, if not equal to them in activity, their attacks might be fatal.

In proceeding to deal with the more purely British song-bird, we may pause to ask ourselves which we should first experiment upon. In the event of anything being done, I think it would be a pity to fritter away attention upon several sorts, and that it would be wiser to concentrate our attention upon one or two only, till experiments upon them had been fairly tried, and we had established them in the colony, or had proved that their introduction was impossible. Glancing down the list of larks, thrushes, blackbirds, robins, nightingales, linnets, finches, &c., I am inclined to think that it would be judicious to begin with the skylark, and that queen of songsters—the nightingale; and that whatever means may be available would be better expended at first in the greatest possible number of individual specimens of these two kinds, than in importing a smaller number of several of a longer list. By aiming at too much we might fail altogether; while by concentrating our attention in one or two directions, we may subject the experiments to a perfectly fair trial.

I have looked somewhat carefully into the history and habits of the nightingale, and I am strongly inclined to believe that it might be successfully introduced amongst us. It is found over almost all the warmer parts of Europe, a considerable portion of Asia, and part of Africa. At the same time it is somewhat capricious in its choice of locality. It is not found in Scotland or Ireland, nor in some of the counties of England (Devonshire and Cornwall, for instance) which one would think best adapted to its tastes. It is migratory; arriving in England about the middle of April, and leaving about September, for some portion, it is believed, of Asia.

I have long been impressed with the possibility and desirability of introducing this bird. A year or two ago, I wrote to

one of my sisters in England, stating my desire to attempt the introduction of nightingales, and soliciting her co-operation. My sister readily consented, and went up to London for the purpose of making the necessary inquiries, and arranging for the shipment of some of the birds. In the course of her investigation she learned that a gentleman was then resident in London who has distinguished himself by great attention to the subject of ornithology. I will not mention his name. But if I did, you would agree with me in looking upon him as a very high authority. It occurred to my sister that it would be very well worth while to ask the advice of so experienced a gentleman, before proceeding further, and she therefore called upon him; but I regret to say that his opinion was so unfavorable to the experiment that all further action was suspended till I could be communicated with. The objections to the scheme were grounded on the supposition—first, that so delicate a bird as the nightingale could not be brought out safely to Australia; and secondly, that if it did arrive, and were turned loose here, it would find nothing suitable for its subsistence. He therefore pronounced the attempt little better than Quixotic. My sister urged in favor of the experiment that seven English skylarks had been set free near Geelong; and that, years after, they or their descendants had been heard singing cheerfully. The gentleman stated that he altogether doubted the fact; that there was an Australian lark which so nearly resembled the skylark of England in its habits that no one but a naturalist could distinguish it, and that this must have been the bird alluded to.

Now, with all deference to so high an authority, I am prepared to prove this gentleman wrong in some of his inferences, and I think that I am quite justified in distrusting him in others. I am afraid that there is too often observable in science a sort of pedantry which is lamentably liable to lend itself to obstruction; and I cannot help thinking that there is some trace of it here, and that this experiment was thereby somewhat unnecessarily disparaged. With reference to the skylarks turned loose on the Barrabool Hills, I had myself kept an eye on the issue of the experiment with some interest, and three or four years after they were set free I offered a reward of a few pounds to any one who would bring me authentic intelligence of them or their offspring. A very respectable Scotch mechanic called upon me some time after, and told me that he had heard a skylark singing above a large flat near the Jim Crow Ranges; that two lads came up while he was listening to it, and that they all distinctly recognised it as an English skylark. I took the precaution of

assuring myself, by inquiry, that my informant was a truthful and respectable man, and have no doubt at all of the accuracy of his statement. I learned from several other quarters that the larks had been heard on the Barrabool Hills and in other directions. As far as I can recollect they were turned loose about the year 1850. About a year and a-half ago, Mr. Hickenbotham, the draper, in Swanston-street, called at the *Argus* office, to say that he had just heard an English skylark at Flemington. I have lately seen Mr. Hickenbotham, and questioned him particularly, and he states that he is quite certain that it was an English skylark. He says that he is the son of an English farmer, over whose fields the skylark sang almost incessantly ; that he lived there till the age of manhood, and knows the skylark as well as any one can know it. About this having been an English skylark he has no doubt whatever.

As for any Australian lark so nearly resembling the English skylark as to be indistinguishable from it, I must plead guilty to a strong tendency to scepticism. I would appeal to my hearers as to whether any one of them ever heard or saw such a bird. I have ridden over the country all the way between this and Sydney in one direction, and between this and Portland in another, with some vigilant attention to the main features of the natural history of the continent, and I never saw such a bird. There is indeed upon our plains a bird somewhat resembling the skylark in size and color, which flutters upwards while it sings ; but its song is little better than a sort of melancholy croak. There is as little chance of any one mistaking its voice for that of the skylark of England, as there is of anybody mistaking mine for that of Madame Bishop. I confess that with regard to the remark I have alluded to, I am utterly at sea.

I will now show that in some of his predictions the experienced naturalist was completely wrong. While making some further inquiries, and hesitating what my next step should be to test the experiment, I noticed some months ago the arrival here of a well-known bird-dealer, with a great variety of English song birds, including five healthy nightingales. I immediately put myself in communication with him, agreed for a price for his nightingales, and was kindly furnished with a great deal of information upon the whole subject of the shipment of birds. Mr. Brown is a partner in a concern long largely engaged in this business, and having branch establishments in various parts of the world—Germany, London, Paris, New York, Valparaiso, San Francisco, &c. Mr. Brown had brought out by this ship an assortment of birds, comprising nightingales, blackbirds,

thrushes, starlings, goldfinches, linnets, skylarks, robins, woodlarks, and chaffinches. By way of testing the accuracy of the warning as to the difficulty of bringing any of them across the sea, I asked particularly how many of his English birds Mr. Brown had lost during the voyage. His answer was, "Not one by death. I have every English bird I started with, but one blackbird, which got out of its cage at sea, and flew overboard."

So much for the impossibility of bringing them out. As to the fear of their meeting no suitable sustenance here, I can only say that the nightingale is insectivorous; and I think that few of my hearers who know anything of the country districts of this colony, will feel inclined to fear any fatal scarcity for an insect-eating bird. Every tree swarms with life of one kind or other all through the year; and it seems absurd to suppose that a bird with little else to do but to feed itself, should have any difficulty in finding amply sufficient insects to keep itself in health and comfort. In the course of an experiment with the nightingales brought out by Mr. Brown, I had to take charge of one of them for several weeks, and watching its habits attentively, was very much struck by the activity and astonishing rapidity with which it would dart upon any insect that came near its cage. It takes a sharp bird to catch the house-fly, but the nightingale rarely missed it. I saw quite sufficient to convince me that in a country so beset with insects as this, there was very little danger of starvation for a bird that fed on insects.

The result of the experiment with these nightingales has not, I regret to say, been very successful, further than in furnishing us with some hints for future operations. And here I would repeat a remark that I made in my last Paper, that the most essential quality in those who undertake this kind of experiment, is the spirit to meet rebuffs. The original outlay, or the little thought or care required for an experiment, appear to me to be trivial matters, as compared with that dogged determination to succeed, which refuses to be daunted by difficulties, and is rather spurred on to greater efforts by even mortifying mishaps.

Having succeeded, by the aid of a very enthusiastic naturalist—Dr. Barry, of the Gardiner's Creek Road—in raising the necessary sum for the purchase of the five nightingales I have spoken of, they were conveyed to the Botanical Gardens, and placed in a large cage prepared for them. But almost the first night the native cats attacked them, killing one, and slightly injuring one of the others. Having made arrangements to prevent a repe-

tition of the attacks, we left them for a few days, to accustom them to the cage, and we then let them out as quietly as possible. While watching them after their liberation, we found, to our great dismay, that only two out of the four could fly, and that the others ran along the ground in so helpless a condition as to render themselves very liable to injury from an enemy of any kind. With some little difficulty we caught these two again, and found their wings in so ragged a state from their restless habits in their small cages, that it was no wonder that flying was out of the question. We got their wings pulled, and I took charge of them till such time as the feathers had grown again. But one of them was either ill, or had got injured in being recaught, and died the next day; and the other, after having lived apparently healthy, but in a curiously ragged condition, for several months, seemed to find one of our frosty nights too cold for it, and, although eating heartily the day before and sheltered in a tolerably warm room, it was found dead in the morning. The two which were left in the gardens were seen once or twice, and upon several occasions passers on the river informed Mr. Brown that they had been heard to sing. For some time no news was received of them. The nightingale is, however, a very shy bird. It lurks in the most leafy recesses of the thicket, and scores of them might hide themselves in so suitable a place for their reception as is furnished by some portion of the Botanical Gardens, without giving any note of their whereabouts. A short time ago, however, I was delighted to hear that one of them had been both seen and heard singing, by Mr. Wilhelme, a German gentleman engaged at the Botanical Gardens. I called upon Mr. Wilhelme, and he showed me the precise tree near his cottage where it was perched. It appeared very healthy, sang cheerfully, and was undoubtedly a nightingale. Of this Mr. Wilhelme had no doubt whatever. He is a gentleman of education and respectability; has lived in parts of Germany in which the nightingale is quite common, and speaks quite confidently of the fact. Next to the pleasure with which I heard that one at least of the birds was doing well in the spot in which it was turned loose several months ago, was the surprise occasioned by the fact that it had allowed so large a portion of our winter to pass away, without showing any disposition to obey its natural instinct of migration.

An experiment on this small scale was scarcely likely to be very successful. Nature is profuse in her supply, and if we imitate or supplement nature we must be tolerably liberal too. At the same time, if we went systematically to work, and did

not experiment upon more than one or two sorts of birds at a time, we might accord to each a fair trial without any very great individual efforts. We had to give Mr. Brown four or five pounds each for his nightingales, and considering that it was his peculiar business, I did not think the price an extravagant one. But if they were brought out in numbers direct, bought on reasonable terms in England or Germany, and entrusted to the care of some intelligent cabin passenger, with the paid assistance of a steerage passenger, in some of our clipper ships, I think they ought to be landed here at probably one-fourth of that sum. They should be examined on landing, their wings put to rights, and they should then be allowed to exercise themselves for a time in a moderate-sized room. The Botanical Gardens have many advantages as a place to set them free, and of course it would be of great importance to have them as near as possible to Melbourne, so that their song, if they ever did become established, might delight as large a number of hearers as possible. But close neighbourhood to town would be objectionable, as exposing them to destruction at the hands of the cockney shooters, who abound there, and who are apt to show themselves less anxious as to the size or value of their game, than glad to get something alive to shoot at. After some consideration it strikes me that the best place that could be selected, at which to set them free, would be amongst the well-grown umbrageous gardens and orchards on the banks of the Yarra about Heidelberg. The nightingale has qualities very favorable for diffusion. They are not gregarious. Intense jealousy of each other's song seems to separate them from one another. And as the notes of this astonishing little vocalist can be heard at the distance of a mile, there is every hope that if we can secure their being numerous, their haunts will soon extend over a considerable space. Started at Heidelberg, I believe they would soon make their way up and down the river, stationing themselves wherever they found an enticing thicket, and rapidly spreading further and further in accordance with their usual instinct. As winter comes on I think they would fly northward, and perhaps take up their quarters temporarily in some warm locality on the Murray, or still more northerly part. But if they *bred* with us they would return to their old breeding places in the spring, as they are particularly faithful to old haunts. Particular birds have been known to return to the same place for years in succession.

The experiment should be made in the spring, as soon as the warm days come round, and insects become numerous. To give

it a fair trial I think that three relays of ten birds each, properly mated, should be turned out at intervals of a month, for three years in succession. Their favorite food should be left accessible, that they might be driven only gradually to find their own. If we could get them at anything like the price I have mentioned, this would cost us about thirty or forty pounds a-year, or a hundred or hundred and twenty pounds in all. But if it cost us twice that sum I think that properly divided amongst us it would be a very insignificant price to pay for such an addition to the general stock of happiness—such an addition to the various attractions of the colony, as this magnificent songstress would unquestionably be. Such interest do I take in the experiment that if it should be taken up by any one else, with a spirit likely to lead to its success, I would willingly subscribe to aid in giving it a fair trial; but in any event, I will try what I can do in that way myself, and, with life and health, it shall go hard with me if I do not succeed.

If it be deemed advisable to add to the stock of skylarks which may now be in the colony, I think that they would be much more easily managed. The neighbourhood of any corn field near town would suit them; although they should be let loose in a place where corn is left to ripen, not cut as hay, as the removal of the latter might destroy their nests. They should be bought cheaply enough. In one of the works to which I have referred, I find it stated that from the neighbourhood of Dunstable alone 4000 dozen of these birds are annually sent to London for the table; and if consigned in such numbers to so pitiable a fate, we surely might get cheaply a few dozens for conversion to a very much better purpose.

I am encouraged to think that these experiments would answer, as Mr. Brown tells me that he and his partners have already succeeded in introducing both the nightingale and the skylark into the neighbourhood of New York. He assures me that the one is heard constantly in the cemetery of that city, a place less suited for it than our Botanical Gardens, and that the other is heard carolling joyfully over the corn fields in that State, just as it does in England.

If we succeed with these, we might then proceed to other kinds, although it might be questionable how far it would be expedient to bring out some of them, particularly fruit-eating kinds. This will, I think, one day be a great fruit country, and such birds as live mainly upon fruit might become more a trouble than a benefit. They might even teach the native birds to imitate them, for some of my country friends have told me

that many of the indigenous birds are quite sufficiently disposed to be troublesome in this way, as soon as they find out what the fruit is.

Incidental to this subject, I may mention that a very interesting list was lately sent me by some intelligent man connected with the Botanical Gardens, of the various birds frequenting that locality. Many of my hearers will be surprised to learn that nineteen different kinds of water-birds, and no fewer than sixty-three kinds of land birds, are to be seen at one time or other in these gardens. The list is very carefully prepared, showing the arrival and departure of such as are migratory, and the time of building of many; and also attaching to each the volume and page in which it figures in Gould's great illustrated work. The list is very well worthy of publication.

The committee appointed by the Legislative Assembly to consider the subject of the introduction of new animals, has just brought up a report recommending the annual expenditure of three thousand pounds in experiments of this kind. I trust that the House will give encouragement to this sort of enterprise. But I regret to notice that the mention of such a scheme is but too apt to provoke what I cannot but consider a very ill-placed levity. Considering the resources of the country, and its not only undeveloped but unknown capabilities, I do not think that a moderate amount could be more beneficially bestowed, than in the introduction of new and interesting animals. I have no idea of living in a half-furnished country, when, with a little spirit, it could be amply supplied with almost all that could contribute to our enjoyment. Would it not be worth the while of this Institute to keep an eye upon this probable annual grant, and, if confirmed by the Assembly, endeavour to secure some voice in its application? Perhaps it might not be out of place to petition Parliament to set apart a sum for such a purpose. The expression of opinion of the Philosophical Institute would have considerable weight, and might have a beneficial tendency towards checking that disposition to sneer at undertakings of the kind, to which I have already alluded as so singularly characterising our Legislature.

Mr. Chairman and Gentlemen, there is a principle in social organisation which appears to me to have been hitherto very imperfectly developed, but which, if developed, I think would lead to very astonishing results. I allude to the principle of *combination.*

By combination of effort we achieve most satisfactory and often wonderful effects. But we do not seem to systematise and

adopt this as we should do; or elevate it in our estimation to anything like its proper position. I will endeavour to show what I mean by one or two familiar illustrations. If any one of us desired to possess a Crystal Palace, like that now glittering at Sydenham, the desire would be a hopeless one. Individual effort would not supply it. Yet by combination the Crystal Palace is there, and any working man may have the use of it for a shilling. If any of us wanted to send a letter to England within fifty days, it would cost him several thousand pounds. By combination it is taken safely and rapidly for sixpence. If life and death depended upon the instantaneous transmission of a message to Sydney, as an individual effort it would be all but impossible. By combination it is done easily for five shillings. Yet is all this combination to a great extent unconscious and involuntary. The principle is not intelligently systematised and made the most of. Government is a form of combination, and one that I believe to be capable of very much more perfect development than the world has ever yet seen. But all Government is sadly apt to run into jobbery, extravagance and mismanagement. Could we divest it of this peculiarity we should attain an organisation of a very effective character, through whose agency most surprising results might be educed. At present, for 'instance, contributing eight or ten pounds each to the national revenue, the taxes press very lightly upon us all. Suppose that without adding to the disposition to extravagance and waste, we determined to contribute twice that amount, which I believe we easily might do, what a magnificent fund would be at our disposal, to multiply rapidly amongst us all the enjoyments of civilised life! With a good Government, taxation is not a drain upon our individual finances, but a very economical investment for the multiplication of conveniences. And for my part I think it indicative of something very like stupidity, for people to be contented to live in a country but half supplied with the requirements of civilisation, when most of them are readily enough attainable, if we choose to have them.

But failing satisfactory Governmental combination, much may be done by combination under other auspices. And in the elaboration of this principle I believe that there is an undug field very well worthy the attention of the inquiring mind. It seems to me that the essence of effective combination is to be found in the general appreciation of its power, and the deferential homage consequent upon that warm appreciation. Thus, when asked to combine for any object, we ought generally less to dwell upon the particular object itself than to indicate our

fidelity to a great principle of acknowledged value. By such aids the whole surface of the earth might rapidly be changed, improved and beautified; and the air, the earth, and the water might be made to swarm with everything calculated to be useful, interesting and attractive. By aid of this principle of combination, not only my friends the nightingale and the skylark could be added to the birds of this colony within a year, but every other British singing bird, at the cost of a penny per head to each member of our present population.

Art. XII.—*On a Suggestion for a new Mode of Life Insurance.*

By Professor Wilson, M.A., Melbourne University.

[Read before the Institute 5th August, 1857.]

The object of this paper is to bring forward a suggestion for increasing the advantages offered by insurance offices. It does not propose any alteration in the present modes of insurance, but the addition of another to those already existing.

According to the most usual system of insurance, a person wishing to secure a certain sum of money, to be paid to his representatives at his death, contracts to make to the office annual payments called premiums, the amount of which depends on his age and state of health.

There are various subsidiary arrangements by which, in some instances, the successive premiums are gradually diminished, in some the amount insured is increased, and in some instances the payment of premiums ceases after a finite term of years. In some instances, to which I shall more particularly refer afterwards, the payment at death is secured by the payment of a single premium.

It not unfrequently happens that from one cause or another persons who have insured are unable to continue the payment of their premiums, and, to avoid forfeiture, are compelled to sell them, a process which always involves considerable loss.

The arrangement which I propose is as follows; and in stating it I will, in the first instance, waive all considerations arising from the necessity of guarding against fraud or unsound health.

Let a table be formed showing, for every age, the single pay-